

Safe Handling of Farm Produce

Agriculture and Natural Resources Fact Sheet #516



From farm to table, each step of the food handling process presents a chance for pathogens (germs like E. coli and Salmonella) to enter the food supply. Germs that cause foodborne illnesses can occur on all types of farms, from Community Supported Agriculture (CSA) farms to U-pick operations. While no one knows how much foodborne illness begins on the farm, growers should take some simple steps to reduce the risk of contaminating farm fresh food.

Remember these Six Simple Steps

1) Keep Soil Clean

The following are recommendations of the [US Food and Drug Administration \(FDA\)](#).

- Solid manure, manure slurries, and manure tea, must be closely managed to limit the potential for pathogen contamination.
- Be sure to compost manure, incorporate it before planting, and avoid top-dressing with it.
- Most germs in composted manures are killed by high temperatures during aerobic composting.
- Raw manure should not be used for fresh produce crops which are harvested throughout most of the year.
- Exclude animals from production areas during the growing season.
- Avoid planting root or leafy crops (especially those that are eaten raw) in the year manure is applied.
- Do not top or side dress with fresh manure. Composted manure is okay.
- Do not use dog, cat, or pig manures because of the number of parasites these species share with humans.

2) Use Clean Water

- Use **clean** water for overhead irrigation, produce cooling, washing, dipping, and processing operations.
- Groundwater or chlorinated water are less likely to harbor germs or pathogens. Test any surface water that is close to untreated sewage or livestock operations. Check the [yellow pages](#) under *Laboratories-Testing* for water and soil testing labs.
- Drip irrigation minimizes risks because crops are not directly wetted.
- Overhead watering with well water is low risk if well

casing is maintained and livestock are excluded from pump areas.

"Pathogens may survive in raw manure for as much as a year or longer". —US FDA

Besides posing a health risk, applying raw manures directly to vegetable crops can cause off-flavors and odors when vegetables are prepared and eaten.

For more information about problems with using raw manure (e.g., soil fertility imbalances, weed problems, pollution) see the ATTRA publication [Manures for Vegetable Crop Production](#)

P.O. Box 3657, Fayetteville, AR 72702 (800)346-9140.

- Overhead watering with surface water may introduce risk if downstream from livestock operations. Consider water testing.

3) Be Careful with Chemicals

- Agricultural chemicals include pesticides, fungicides, herbicides, growth regulators, and fertilizers. If you choose to use chemicals, follow label instructions for application rates, re-entry dates and safe harvest dates.
- Other chemicals that can be hazardous include cleaners and sanitizers. Follow label recommendations.
- Heavy metals can be found in sewage sludge, contaminated soils, tainted water, and even fertilizers. Consider

soil and water testing if you suspect contamination.

4) Use Safe Storage and Cooling Practices

- Clean and sanitize processing and storage areas and containers with 10% bleach solution before harvest.
- Do not smoke or eat in packing and processing areas.
- Keep animals (especially rodents) out of packing and processing areas.
- Store produce at temperatures that maintain quality and minimize growth of pathogens (optimum temperatures vary for different products).
- Air cooling systems (as opposed to water and ice) pose the lowest risk for contamination.
- Keep chilling equipment clean and sanitary.
- Store clean, empty bins in full sun, if possible (ultraviolet rays destroy several kinds of germs).

5) Wash Your Hands

It sounds too easy, but handwashing really works to wash away germs from your hands.

- Provide soap and clean water in the field, in packing areas, and with restroom facilities.
- Insist that all food processing workers wash their hands with **soap and water** (for 20 seconds) before and after handling fruits and vegetables.



6) Provide Restrooms

- Restroom facilities including handwashing units should be convenient for workers, visitors, and customers!
- Toilets and sinks can be rented. Some resources for portable toilets and sinks include:
Emerald Portable Toilet Service (206)763-2700;
54 S Dawson St, Seattle, WA.
[HoneyBucket <www.nwcascade.com>](http://www.nwcascade.com);
(800)562-4442; 16207 Meridian S, PO Box 73399,
Puyallup, WA 98373.
Pot-o-Let/Sanikan (800)533-1990; 6211 234th SE,
Woodinville, WA.

A Word about Liability

The burden of liability for chemical or microbial food contamination may rest with growers. Consider carrying an insurance policy which covers product liability for injuries related to products raised or sold by your operation. Contact your insurance agent for advice.

Sources

FDA Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables; U.S. FDA Center for Food Safety and Applied Nutrition (202)-260-8920; 200 C Street S.W., Washington, DC 20204; <www.foodsafety.gov/~dms/prodguid.html>.

Food Safety for Farmers' Markets. Gast, Karen. Kansas State University Agricultural Experiment Station and Cooperative Extension Service <www.oznet.ksu.edu/library/>.

Manures for Vegetable Crop Production, Appropriate Technology Transfer for Rural Areas (ATTRA) (800)346-9140; P.O. Box 3657, Fayetteville, AR 72702; <www.attra.org>.

Prevention of Foodborne Illness Begins on the Farm, Cornell Cooperative Extension (607)255-0599; 134A Plant Sciences Bldg., Ithaca, NY, 14853-5909.

**Alternate formats available upon request.
206-205-3100 (TTY 711)**